02228

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TSSG/TEB-23/69
14 November 1969

MEMORANDUM FOR: Chief, Research & Engineering Division, TSSG

THROUGH : Chief, Test & Evaluation Branch, ESD
Chief, Engineering Support Division, TSSG

SUBJECT : Memorandum Test Report on Acceptance Testing of the [redacted] Twin Stage On-Line PI Comparator (TSC) 25X1

REFERENCE : Trip Report -- Preacceptance Tests of TSC dated 20 October 1969

1. The items noted on the attached checklist have been inspected and, when a check mark appears, are acceptable.

2. One defect was found. The sharp corners noted in Ref. 1, Sect. 4.5 on the encoder housings were not broken. This is not a safety hazard. In my opinion, correction of this fault would have meant re-anodizing the subject housings. This is probably why it was ignored.

3. Engineering and performance testing has started, and should be completed by 19 December 1969 as per test plan.

25X1

[redacted]

Test Engineer
TEB/ESD

Attachment:
As stated above

Distribution:
Orig. - Addressee
1 - NPIC/TSSG/RED [redacted] 25X1
1 - NPIC/TSSG/PPS (through Ch/TSSG)
25X1 1 - NPIC/IEG/OSS [redacted]
25X1 1 - DDI/IAS [redacted]
1 - DIAAP-9
25X1 1 - Army/SPAD [redacted]
2 - NPIC/TSSG/ESD/TEB

GROUP 1
Excluded from automatic downgrading and declassification

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25X1

[redacted] TWIN STAGE ON-LINE PI COMPARATOR
ACCEPTANCE TEST CHECK LIST

I. Material to be furnished with instrument:

25X1

1) 2 ea [redacted] Fluotar (5100) - 3.0x Objective Lenses ✓

2) 2 ea " " (5105) - 6.0x " " ✓

3) 2 ea " " (5050) - 10.0x " " ✓

4) 2 ea " Compensating (5551) - 6x Eyepieces ✓

5) 2 ea " " (5383) - 10x " ✓

6) 1 ea Operator's Instruction Manual ✓

7) 1 ea Maintenance Manual (including Schematics) ✓

8) 1 ea Spare Parts List ✓

II. Physical Dimensions

1) Length 48" max ✓

2) Width 34" max ✓

3) Knee Well Height 25" min ✓

4) " " Width 24" min ✓

5) " " Depth 22" min ✓

6) Eyepoint from floor 47 3/4" ± 1" ✓

III. Visual Observations

1) Warning light when power is on ✓

2) Limit switches at ends of stage travel

Left Stage +X ✓

" -X ✓

" +Y ✓

" -Y ✓

Right Stage +X ✓

" -X ✓

" +Y ✓

" -Y ✓

3) Spares for all fuses ✓

4) Markings on all controls ✓

5) No visible flicker on full stage illumination ✓

6) Separate controls for left & right optics illumination ✓

7) Electronic Console on casters ✓

8) Ready access to a) stage lighting ✓

b) electronics ✓

9) Check for sharp corners

a) TSC — X

b) Console — ✓

IV. Stage Drive

1) Single joystick control for
   a) both stages — ✓
   b) left stage — ✓
   c) right stage — ✓

2) Speed variability
   a) 5 µm/sec max min left stage — ✓
      right stage — ✓
   b) 5 mm/sec min max left stage — ✓
      right stage — ✓

3) Differential Motion 5/1 min
   left/right — ✓
   right/left — ✓

4) Controls smooth and positive — ✓

5) Total motion 6 in min (152.4 mm) a) left stage, X ✓

Y ✓

b) right stage X ✓

Y ✓

6) Rotary motion 360° a) left stage ✓

b) right stage ✓

7) Least count digitizer 1 μm ✓

8) Glass pressure plate .063 thick max ✓

9) Focus sharp @ 200X over 1 in square, Left leg ✓

Right leg ✓

V. Illumination

1) Condenser type source under each objective ✓

2) Variability 50% to 100% full intensity ✓

VI. Optics

1) Independent fine focus for each leg ✓

2) Sharp round black reticle on 20 μm in diameter in each leg of optics ✓

4) Resolution (85% of unmodified system) both legs

817 lines/mm min ✓

VII. Electronics & Computer Interface

1) All words sending in proper order ✓

2) Acknowledge transmission received okay ✓

3) Errors timed out per change ✓

4) Echo returned on-line ✓

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